

## 6. Verification of GHG Reductions

Verification refers to establishing whether the GHG reductions assessed by the evaluators actually occurred, similar to an accounting audit performed by an objective, certified party. If carbon credits become an internationally traded commodity, then verifying the amount of carbon reduced or fixed by projects will become a critical component of any trading system. Investors and host countries may have an incentive to overstate the GHG emission reductions from a given project, because it will increase their earnings when excessive credits are granted. For example, these parties may overstate baseline emissions or understate the project's emissions. To resolve this problem, there is a need for external (third party) verification.

The verifier is expected to conduct an overall assessment of the quality and completeness of each of the GHG impact estimates. To this end, the verifier will request information in a Verification Reporting Form (VRF) (Appendix C), similar to the Monitoring and Evaluation Reporting Form (Appendix B). It is expected that the VRF will be distributed to project participants, the host country, the investor country, the FCCC Secretariat, and the CDM Executive Board. Verifiers may modify this form based on their past experience in using similar forms. Verifiers will use additional material and data for evaluating the performance of energy-efficiency projects. For example, verifying baseline and post-project conditions may involve inspections, spot measurement tests, or assessments, as well as requesting documentation on key aspects of the project (similar to what is done as part of the IPMVP). In addition, the following general questions regarding quality and validity need to be asked: (1) have the monitoring and evaluation methods been well documented and reproducible? (2) have the results been checked against other methods? (3) have results (e.g., monitored data and emissions) been compared for reasonableness with outside or independently published estimates? (4) have the sources of emission factors been well documented? and (5) have the sources of emission factors been compared with other sources? (IPCC 1995). Verification can occur without certification.

Verifiers could be active from the beginning of the project's operations, but in our mind, verification occurs after the project begins regular operations. After the project's first operational interval (e.g., one year), and periodically thereafter (e.g., annually), the verifier would verify the project's energy savings and carbon emissions in the preceding period. This may include the following tasks (personal communications from Johannes Heister, The World Bank, Jan. 12, 1999 and Bill Stanley, The Nature Conservancy, Jan. 13, 1999):

- Review continued compliance of the project operator with the agreed procedures for project maintenance and monitoring.
- Audit the relevant physical measurements and statistical data collected at the project site and, if so required by the monitoring and evaluation plan, also outside of the project boundaries (especially if positive project spillover and market transformation are expected).
- Check whether energy savings and carbon emissions have been calculated correctly (including a check of the data used in the calculation of the baseline).
- Examine the comparison of the actual, verified energy savings and carbon emissions with the estimated energy savings and carbon emissions.
- Assess whether significant environmental and socioeconomic impacts have been identified, quantified, and addressed.
- Alert the project participants of any developments that could lead to increased risks and that could jeopardize the success of the project.

The verifier would issue a report for each verification period. The report would cover the above tasks in a transparent manner and in such a way that the quantification of energy savings and carbon emissions achieved during the verification period could, in principle, be reproduced by other interested parties. Based on the verification report and other lessons learned, the project participants may want to amend their monitoring and evaluation plan or other procedures.